INSECTARY
NS Dept. of Natural Resources

Insectary Notes

July/August 2008

From the Editor

There is a legend that the Inuit people have 100 words for snow. A little research told me that, in fact, there are about the same number of words for snow in the Inuit language as there are in English. And where am I wandering with this thought? Right out into the rain, downpour, deluge, soggy, wet, mouldy, soaked, sodden, flooded, @!#$% RAIN . . . the heavens have opened with words to describe August 2008. But even with the excess of damp weather, insects and their kind keep us busy.

This newsletter is packed full with information on the European fire ant as well as an Index of the past Insect Focus topics. Mike has provided an update on the status of the jack pine budworm and the pale winged grey. Keith has written on the activity in his garden as well as an update on the whitemarked tussock populations. Gina has shed light on the causes of tar spot on maples.

Til next time,

Jacqui

Editing is a Rewording Activity

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Say What and Quotes . . .

Back to School . . .

High School: the mouse race to prepare you for the rat race

"Sign on a High School bulletin board in Dallas: Free every Monday through Friday--knowledge. Bring your own containers. " - E. C. McKenzie

And don't forget the books . . .

Walking to School the First Day Back - by Misty Bus

The Day the Car Pool Forgot Me - by I. Rhoda Bike

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Insectary Notes **is published 6 times per year by Forest Health, NS Department of Natural Resources.**
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Insect Focus

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Jacqui Gordon

Sad to say, insects rarely make the news in a good way . . . and news of the European Fire Ant and its impact on homeowners in Pictou and Halifax Counties is definitely not a good news story. Although it's not a forest pest and we are not the lead agency in developing a management plan, we wanted to provide our readers with current information on this insect and who to contact if you have a problem with European fire ants. So, here we go . . .

European Fire Ant, *Myrmica rubra*

(also known as European Red Ant)

It's important to note that these ants are only distantly related to the "true" fire ants (*Solenopsis* species) found in the southern U.S. and Latin America.

Why are they a problem?

These ants aggressively defend their territory. They will readily sting humans and animals that venture into their foraging area. Although reaction to the sting varies from one individual to another, the general reaction is a burning sensation and an inflamed area at the site of the sting. Homeowners in infested areas have reported that they are unable to use their yards because of the fire ant attacks.

Also, European fire ants may displace our native species of ants.

To date, populations of the European Fire Ant are known in the Summit Street and Jubilee Road area of peninsula Halifax and in Spryfield, Lower Sackville, Abercrombie, and Stellarton.

Where did they come from?

The European fire ant is native to cold regions of Europe and Asia. It was first discovered in North America in Maine in the early half of the 20th century. It is thought that the ants arrived in containerized plant material shipped from Europe.

Identifying European fire ants

European fire ants are small (only about 5 mm), red ants. The queen is a little larger. They have a constricted "waist" that has two segments; most native species have only one. There are two backward pointing spines on the middle body section, visible with a magnifying glass.

They are capable of inflicting a painful, burning sting.

Where they live and how they spread

European fire ants build nests in soil under rocks, wood or other debris. These nests are NOT large soil mounds. The number of nests is usually very abundant, with 10-12 nests in a 10-ft x 10 ft area.

It appears the ants spread two ways. One way is by "colony budding" into adjacent areas where a group of ants, including the queen, moves from the original colony and establishes a new nest nearby. They are also spread by human transport of nests from infested areas (soil, decaying logs, potted plants, etc.)

Derailing our train of thought . . .

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When one of the native species of ants is a nuisance on your property, the short term control method is to apply some type of insecticide that the worker ants take back to the queen. This usually works well because there is only one queen. The long term solution to a problem with native ant species is to make your property less attractive to the ants by amending the soil with organic matter.

But, here's where the train goes off the tracks . . .

European fire ant colonies have more than one queen. In England, colonies were found with an average of 15 queens per colony and a maximum of 670 queens. Multiple queens will make it much more difficult to destroy the colony by killing the queen. Also these ants like moist humid conditions and don't seem to be bothered by organic material.

Management

1. Make sure you don't bring them onto your property. Avoid transporting materials (soil, mulch, plants, decaying logs, etc.) unless you are certain it is free of fire ants.
2. Remove preferred nesting sites, boards, logs, rocks . . . anything that maintains a moist environment.
3. Boric acid and diatomaceous earth are two of the registered pest control products that can be used. These products are most effective when everyone in the neighbourhood uses them consistently.

Who to contact for more information

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Sustainable Environment Management Office
Infrastructure and Asset Management, HRM
Phone: (902) 490-6188
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Pesticide Program Coordinator
Clean Nova Scotia
Phone: (902) 420-6593
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It's time to go to school

One morning a mother was trying to wake up her son. "Wake up now! It's time to go to school."

"I don't want to go to school," the son replied.

His mother said, "Give me two reasons why you don't want to go to school."

"Okay. One, all the children hate me. Two, all the teachers hate me."

"Not good enough," the mother replied.

"Fine," the son said. "Then you give me two good reasons why I SHOULD go to school."

"One, you're 50 years old. Two, you're the principal of the school."

From the e-mail bag . . .

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Fig. 1. Tar spots on maple.
Submitted by Andrew Williams, Truro Tree Committee

Tar Spot on Maple

The wet weather has brought on another round of tar spot on maples. This photo shows the dark blotches on the leaves caused by the fungus (Fig. 1.)

For more information on tar spot, check out the Provincial Entomologist's Overview.

Asian Ladybird Beetle

Also called the southern ladybird beetle, this is an introduced species of ladybird beetle (ladybugs). It is more common to see the red or orange beetles but they also come in yellow. (Fig. 2.)

Fig. 2. Asian ladybird beetle
Submitted by Victoria Peddle

Bits and Pieces

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Balsam Gall Midge

Keith Moore

Christmas tree growers should be on the look-out for the balsam gall midge (BGM). The population seems to be on the rise across the province. Some areas have high numbers of a beneficial parasitic midge that is a natural control for the BGM. while other areas have very few parasites present at this time. I have looked at some samples that had as low as 4 percent beneficial midges present: this indicates that the population of the BGM will be on the rise again next spring. Stay in touch with your Christmas Tree Specialist.

Most Unwanted List

Fruit Flies	Balsam Gall Midge
Mosquitoes	Fall Webworm
Spruce Beetle	

Dishonourable Mention

Blacklegged Ticks	Millipedes
Tar Spot on maples	Spiders

Game - Who Am I . . .

A very dirty little fellow came in from playing in the yard and asked his mother, "Who am I? " Ready to play the game she said, "I don't know! Who are you?" "WOW!" cried the child. "Mrs. Johnson was right! She said I was so dirty, my own mother wouldn't recognize me!"

Bad Grades

A little boy wasn't getting good grades in school. One day he surprised the teacher by tapping her on the shoulder and saying, "I don't want to scare you, but my daddy says if I don't get better grades somebody is going to get a spanking!"

First Day at School

The child comes home from his first day at school. Mother asks, "What did you learn today?" The kid replies, "Not enough. I have to go back tomorrow."

Provincial Entomologist's Overview . . What's the Buzz?

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Are there leaves falling from the maple tree in your backyard? Have you noticed spotty maple trees in your neighborhood? Recently at Forest Protection, we've received numerous calls concerning these unsightly spots.

Tar spots on maples are caused by two species of *Rhytisma* fungi. These fungi infect the upper surface of leaves, each producing different symptoms. The first species, *Rhytisma acerinum*, causes shiny, raised black spots, approximately 0.5 - 2 cm in diameter, surrounded by a yellow halo whereas *Rhytisma punctatum* produces smaller spots, about 1 mm in diameter, sometimes referred to as speckled tar spots. Leaf tissue beneath a large tar spot turns brown while the tissue below speckled tar spots remains yellow.

Outbreaks of tar spot are sporadic, occurring during wet years. Disease symptoms first appear in late spring or early summer as light or yellowish green spots. As the season progresses these spots enlarge, thicken and become black in colour. The impact of this disease is mainly aesthetic. It is rarely serious enough to cause long term damage to established trees. However, heavy infections may result in premature leaf drop.

Tar spot fungi overwinter on infected leaves that have fallen to the ground. The following spring, new spores are released and blown by the wind to reinfect new, expanding maple leaves. Therefore the most effective management practice is to rake and destroy all the spotted leaves in the fall. This can help reduce the amount of overwintering fungal spores. Although fungicides can be applied to protect newly emerging leaves, their use is seldom warranted.

If there is any silver lining to this gray tar spots cloud it's that these fungi are an indicator of air quality. In areas where air is polluted, especially with sulfur dioxide, this disease is rarely seen. So here in Nova Scotia, breath deep!

'Til next time

Gina

Gina Penny, Provincial Entomologist

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Monitor Watch

Of Bugs and Birds and Whitemarked Tussock Moth

Keith Moore

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Fig. 3. A chickadee returns to the Sugar Shack with a tasty larva for its young.

One year my father received a replica of a sugar shack, all painted up blue with an attached wood house. A fancy little birdhouse, more for decoration then for nesting birds. I placed the sugar shack out on the rail of the deck at the farm house near my father's swing seat so he could admire it. My father spends many hours out on the lawn swing in the shade of the house. Beside the deck grows a huge butternut tree that my older brother planted. It's about 49 years old and about 2 feet across at the stump. Only 1 of 6 trees that survived. Its broad, spreading branches provide deep shade that makes it one of the coolest places in our yard. Around 1st July, a pair of chickadees took up nesting in the sugar shack birdhouse about 4 feet from lawn swing in the deep shade of the butternut. It was great fun watching them lug bits of moss up to the door of the house, check to see if we were watching and then quickly fly in the hole. By 24th July, they were busy lugging little green 1/4 inch larvae into the hole and you could here the buzz of the young ones as they received a tasty green worm. I was cheering "Go chickadee, Go! The parents gradually worked up to moths, spotted tussock, and an assortment of leaf-feeding insects. All very interesting! By 10 August, a showery Sunday afternoon, the first fledgling left the nest, it bounced across the tarp on the lawn swing where we were seated and landed on a limb of the butternut. A second young'un was very busy peaking out the nest hole waiting to stretch its wings. I think there was at least 5. I think maybe I will put in an extra scoop of sunflower seeds in the feeder this winter to reward them for good insect control program.

Whitemarked Tussock Moth

I've been speaking with Christmas tree growers who are always on top of it and have the scoop. . .
Whitemarked tussock . . . They're back in spots.

This summer there have been a few cases of whitemarked tussock moth rearing its ugly little head. If larvae counts are exceeding 6-8 per tree, your trees will sustain damage. Many thanks to Bill Rundle for alerting us to a problem in the Dickey Lake area and Wayne Higgins in the Upper Musquodoboit area. Allan Jackson (PDO, McLellans Brook) reported an area in Landsdown and Scott MacEwan (Christmas Tree Specialist),and Greg Murphy(PDO, Antigonish) picked up an area in College Grant near Locharber, Antigonish Co. This area was counting out 20 larvae per tree. Apparently any area that had severe populations last year has one or two larvae per tree this year.

However!!! And it's a good however . . . by the first week in August there were no signs of larvae in the Antigonish area, the population had collapsed again. Hurray for diseases!!!

The Dickie Lake/ Landsdown area still has larvae pupating and will have to be monitored closely for egg masses this fall and winter.

Project Update

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Jack Pine Budworm (JPBW)

Mike LeBlanc

The amount of damage to mature white pine caused by this defoliating insect, a close relative of the spruce budworm, increased again this year. Aerial surveys detected a total of 3535 ha of defoliation (see Table 1); 3154 ha = light; 381 ha = moderate.

The damage has also expanded geographically to the northwest to Fifth Lake Flowage, a distance of approximately 6 km from the Big Pine Lake outbreak, causing 102 ha of moderate defoliation in this, its first year of detectable damage. It has also expanded 6km eastward from the Northeast Bay outbreak to Cowie Bay and across East Brook Bay (Lake Rossignol) causing 551 ha of new defoliation. It has also expanded 5 km south across Lake Rossignol from Northeast Bay to Kempton Bay, causing 80 ha of new, light defoliation there.

We will be collecting our pheromone traps soon. The catch results from these will aid us in deciding where to collect branch samples to determine the overwintering population levels (L-2 survey).

Table 1. JACK PINE BUDWORM DAMAGE HISTORY

Year	Damage (ha.)
2005	360
2006	553
2007	1554
2008	3535

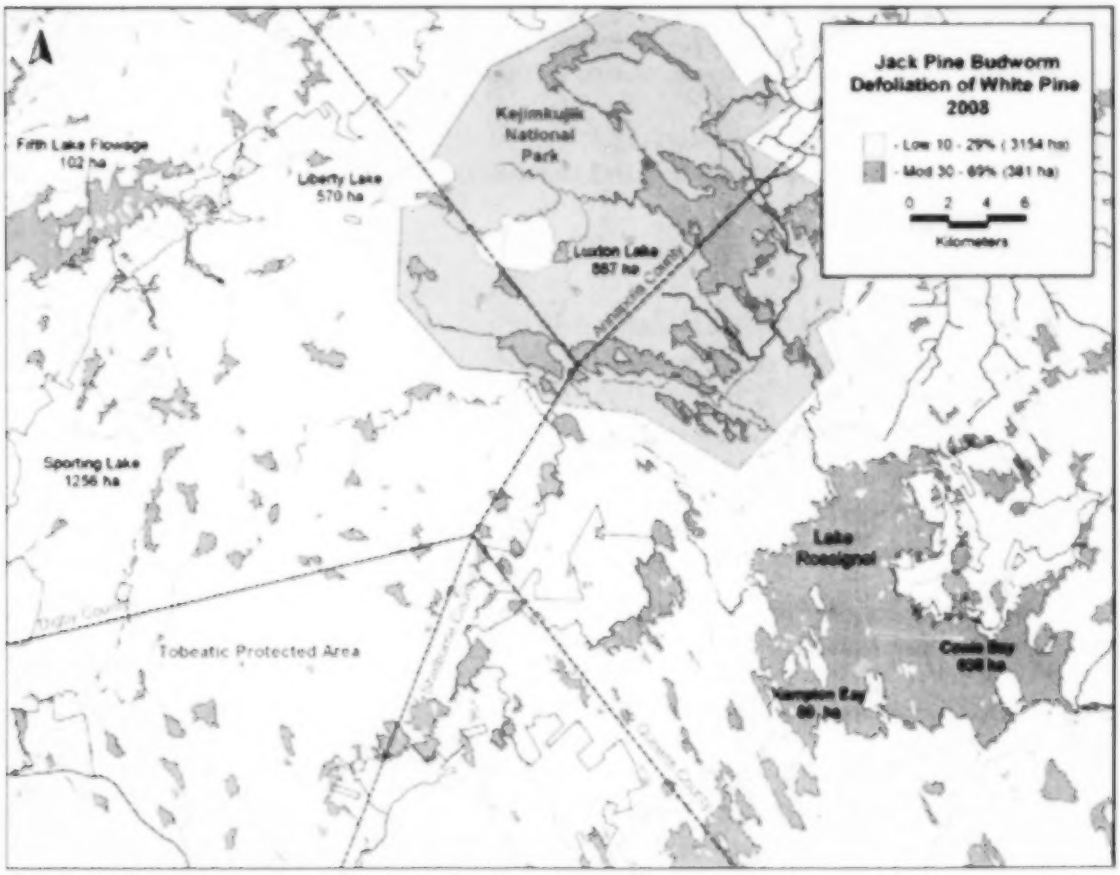

Fig. 4. Jack pine budworm defoliation of white pine, 2008.

Pale Winged Grey (PWG)

Mike LeBlanc

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Defoliation by this looper has intensified in the Bangs Falls, Greenfield, Labelle, and Pollards Falls (Shelburne River) areas. The feeding larvae had consumed the understory foliage over the past few years, and have now moved up into the lower and mid crowns of the dominant trees (see photo).

Fig 5. Pale winged grey defoliation in Bangs Falls, 2008.

Two new areas of defoliation have been detected at Beaverskin Lake and Peskowesk Brook, both located in Kejimkujic Park. There have also been eyewitness reports of defoliation occurring at Jordan Lake, Queens Co. which we will investigate over the next few weeks. One infestation in South Brookfield where the population had collapsed 2 years ago has come back with a vengeance.

The University of New Brunswick is in its first year of a study to attempt to develop a predictive survey method to determine overwintering population levels of this insect (egg stage). This involves mounting small squares of upholstery foam to the bark of trees so female moths can lay their eggs on it rather than on the bark. The squares are collected and examined for eggs using a microscope and the egg counts are correlated to the damage caused by the larvae, the following feeding stage, in June and July.

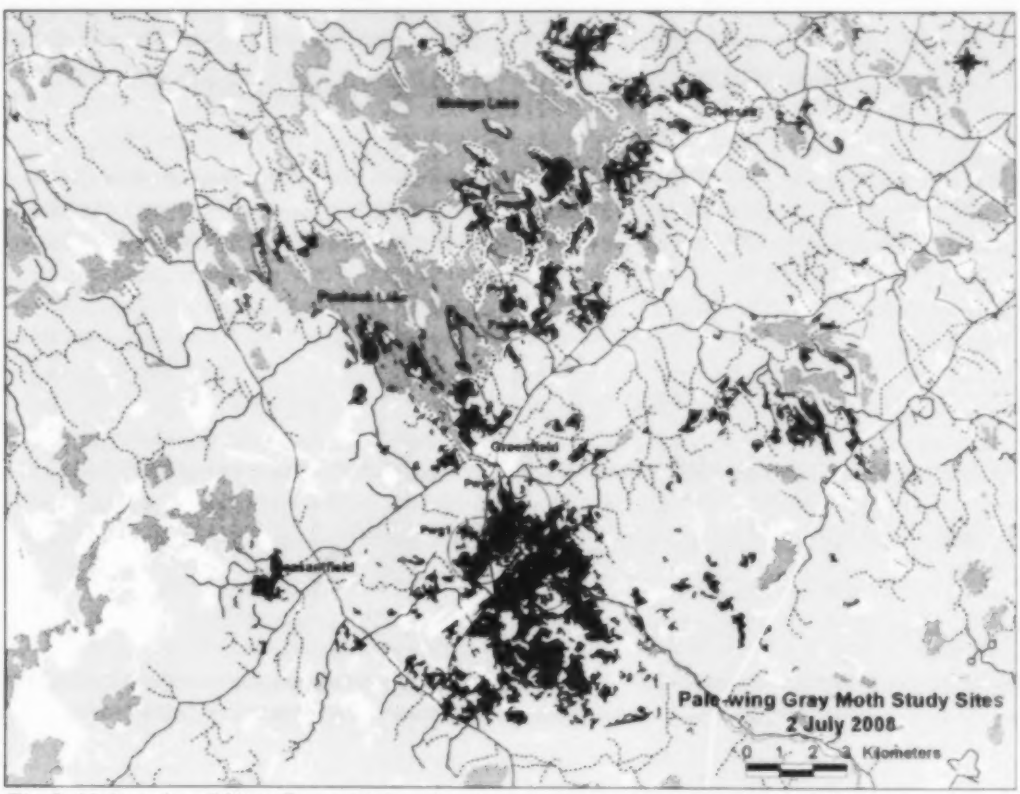

Fig 6. University of New Brunswick pale winged grey moth study sites, 2008.